WHAT IS CLAIMED IS:

1. A human keratinocyte growth factor (KGF) having an apparent molecular weight of about 28 kDa as determined by migration in $NaDodSO_4$/PAGE, and a specific activity of at least about $3.4 \times 10^4$ units per milligram of protein, where one unit of activity is defined as that amount which causes half of the maximal possible stimulation of DNA synthesis in BALB/MK keratinocyte cells under standard assay conditions.

2. Human KGF according to claim 1, wherein said specific activity is at least about $3.2 \times 10^5$ units per milligram protein.

3. A bioassay for KGF-like activity in a test sample which comprises the following steps:

i) growing keratinocytes in culture to confluence and maintaining said confluent culture in serum-free medium;

ii) adding a test sample to said confluent culture of keratinocytes;

and

iii) determining the stimulation of DNA synthesis in said keratinocytes.

4. A method of producing KGF from cultured cells comprising the following steps:

i) Culturing KGF-producing cells in culture medium under conditions such that KGF is produced;

ii) concentrating said culture medium so that a first concentrate is formed;

iii) contacting said concentrate with heparin under conditions such that KGF present in said first concentrate binds to the heparin whereby a heparin-KGF complex is formed;

iv) separating said heparin-KGF complex from said concentrate;

v) treating said heparin-KGF complex under conditions such that said KGF dissociates from the heparin so that a solution of free KGF is formed;

vi) concentrating said solution so that a second concentrate is formed;

vii) fractionating said second concentrate so that KGF is separated from the remaining components.

5. A method of producing KGF from cultured cells, according to claim 4, wherein said KGF-producing cells are M426 human embryonic fibroblasts.

6. A DNA segment encoding a human keratinocyte growth factor (KGF) protein.

7. A DNA segment, according to claim 6, wherein said protein has the amino acid sequence defined in Figure II-1.

8. A DNA segment encoding a chimeric KGF-like protein which comprises within a single polypeptide molecule functional segments of human KGF and at least one other polypeptide of the fibroblast growth factor family.

9. A recombinant DNA molecule comprising a DNA segment according to claim 6 or claim 8 and a vector.

10. A culture of cells transformed with said recombinant DNA molecule according to claim 9.

11. A method of producing a human KGF protein comprising culturing said cells according to claim 10 in a culture medium under conditions such that said protein is produced and isolating said protein from said cells.

12. A method of producing a human KGF protein comprising culture said cells according to claim 10 in a culture medium, wherein said protein is secreted from said cell, and isolating said protein from said medium.

13. A human KGF or KGF-like protein having the amino acid sequence in Figure II-1B.

14. A human KGF or KGF-like protein, according to claim 13, which is not glycosylated.

15. An antibody specific for a peptide having the amino acid sequence of human KGF or KGF-like protein, according to claim 13.

16. The antibody according to claim 15 which neutralizes the mitogenic activity of human KGF.

17. A bioassay for expression of a gene encoding KGF, comprising the steps of:

i) isolating mRNA from tissues or cells;

and

ii) annealing said RNA to a DNA probe encoding a human KGF;

iii) determining the amount of DNA:RNA hybrid containing said DNA probe.

18. A bioassay for KGF antigen comprising the steps of:

i) extracting polypeptides from body fluids or tissue samples;

and

ii) determining the level of human KGF antigen by reaction with an antibody specific for a peptide having the amino acid sequence of human KGF or KGF-like protein, according to claim 13.

19. A pharmaceutical composition for treatment of conditions requiring specific stimulation of epithelial cells, comprising KGF according to claim 1 or claim 13, and an acceptable pharmaceutical carrier.

20. A pharmaceutical composition for treatment of conditions requiring specific inhibition of stimulation of epithelial cells by KGF, comprising antibodies to KGF according to claim 15, and an acceptable pharmaceutical carrier.